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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,895	12/28/2001	Daniel S. Sem	P-TB 5072	1917

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EXAMINER

ZHOU, SHUBO

ART UNIT	PAPER NUMBER
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1631

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/040,895

Applicant(s)

SEM ET AL.

Examiner

Shubo (Joe) Zhou

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2003 and 01 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-32 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Restriction/Election Requirement***

1. This is a supplemental action to the Office action (restriction requirement mailed 9/23/03).
2. Applicants election, with traverse, of group II in the response filed 10/23/03 is acknowledge. Applicants argue that while the inventions of groups I-III are distinct, there would be no search burden to the Office because search of group II would likely reveal art relevant to the other groups. This is not found persuasive because the invention of group I requires that the sequence model for the polypeptide is a polypeptide that binds to a ligand, and searching sequence model for such a receptor would not necessarily find prior art for groups II and III which require that the polypeptides is a member of a pharmacofamily. Further, searching prior art for group II and III would not necessarily find art for group I because receptor-ligand relationship is not required in group II and group III. Further, for examination under 35 USC 112, first paragraph, searching for group II and group III require extra searcher for pharmaceutical uses, etc. Therefore, searching for group I and groups II-III are not coextensive.
3. However, upon further consideration and partly in view of applicants traversal, the restriction requirement is modified as follows:
4. Restriction to one of the following inventions is required under 35 U.S.C. § 121:
  - I. Claims 1-10, drawn to a method for identifying a polypeptide that binds a ligand, classified in Class 702, subclass 19.
  - II. Claims 11-32, drawn to a method for identifying a member of a pharmacofamily involving comparing a sequence of a polypeptide to a sequence model for polypeptides of a pharmacofamily, classified in Class 702, subclass 19.

5. The inventions are distinct, each from the other because of the following reasons:  
The inventions of groups I-II are independent/distinct among each other because each of the inventions is directed to a separate and distinct invention. The methods as claimed are distinct both physically and functionally, require different process steps, reagents and parameters, and produce different products and/or results. For example, Group I is drawn to a method for identifying a polypeptide that binds a ligand; group II is drawn to a method for identifying a member of a pharmacofamily involving comparing a sequence of a polypeptide to a sequence model for polypeptides of a pharmacofamily. Consequently, these inventions have acquired a separate status in the art as a separate subject for inventive effect and are usually published separately. The search for each of the above inventions is not co-extensive particularly with regard to the literature search. Since the invention of group I requires that the sequence model for the polypeptide is a polypeptide that binds to a ligand, searching sequence model for such a receptor would not necessarily find prior art for groups II which require that the polypeptides is a member of a pharmacofamily. Further, searching prior art for group II would not necessarily find art for group I because receptor-ligand relationship is not required in group II. Further, for examination under 35 USC 112, first paragraph, searching for group II requires extra searcher strategy for pharmaceutical uses, etc. Therefore, searching for group I and group II are not coextensive.

### ***Species Election***

6. This application contains claims directed to the following patentably distinct species of the claimed inventions.

7. If this group I is elected, the following species election is required:

Species 1: claim 4 (sequence model being Hidden Markov Model),

Species 2: claim 5 (sequence model being Support Vector Machines Model),

Species 3: claim 6 (sequence model being Position Specific Score Matrices Model),

Species 4: claim 7 (sequence model being Neural Network Model).

These models are distinct in their principle and mathematical models and require different search strategies.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-3 and 8-10 are generic.

8. If this group II is elected, the following species election is required:

Species 1: claims 14 and 25 (sequence model being Hidden Markov Model),

Species 2: claims 15 and 26 (sequence model being Support Vector Machines Model),

Species 3: claims 16 and 27(sequence model being Position Specific Score Matrices Model),

Species 4: claims 17 and 28 (sequence model being Neural Network Model).

These models are distinct in their principle and mathematical models and require different search strategies.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 11-13, 18-24, and 29-32 are generic.

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9. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

10. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

11. Applicant is advised that the response to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR § 1.143).

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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shubo (Joe) Zhou, whose telephone number is 571-272-0724. The examiner can normally be reached Monday-Friday from 8 A.M. to 4 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, Ph.D., can be reached on 571-272-0722. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Patent Analyst Tina Plunkett whose phone number is (571) 272-0549.

13. Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

Shubo (Joe) Zhou, Ph.D.



Patent Examiner